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AUTHOR Weinstein, Carol S.; Woolfolk, Anita E.
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ABSTRACT

A study was conducted to examine the impact of classroom arrangement (open versus traditional) and tidiness (messy versus neat) on observers' expectations about a teacher. A heterogeneous sample of college students was shown color slides of vacant elementary classrooms varying in terms of these two dimensions and asked to indicate their impressions of the teachers and the pupils who used the rooms. A multifactor, repeated-measures analysis of variance was conducted. Findings indicate that observers form strong impressions about a teacher's behavior and personality based on the neatness of the classroom. In addition, furniture arrangement had a significant impact, with open classrooms leading to more positive impressions of a teacher's responsiveness and creativity. (SE)

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Impression Formation and Classroom Design: The Impact of Spatial Arrangement and Neatness on Judgments of Teachers

Carol S. Weinstein and Anita E. Woolfolk

Douglass College, Rutgers—The State University of New Jersey

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Abstract

The purpose of the present study was to examine the impact of classroom arrangement (open vs. traditional) and tidiness (messy vs. neat) on observers' expectations about a teacher. A heterogeneous sample of college students was shown color slides of vacant elementary classrooms varying in terms of these two dimensions and asked to indicate their impressions of the teachers and the pupils who used the rooms. Repeated measures analysis of variance demonstrated that observers' judgments of the occupants were strongly influenced by both the neatness and the arrangement of the rooms.

Impression Formation and Classroom Design: The Impact of Spatial Arrangement and Neatness on Judgments of Teachers

In the last decade, increasing numbers of educators and psychologists have become aware of the impact of the physical setting of a classroom on student behavior and attitudes. Recent research has indicated that various dimensions of classroom design can have a powerful effect on students' willingness to participate (Sommer & Olsen, in press), attitudes toward the class and instructor (Horowitz & Otto, 1973), interaction with materials (Weinstein, 1977), and level of persistence (Santrock, 1976). Although the mechanisms responsible for this influence have not yet been identified, Proshansky and Wolfe (1974) have hypothesized that the environment affects behavior in ways that are both "pragmatic"—objective and direct—and "symbolic" or interpretive. For example, students seated in straight rows may be unable to sustain a lively discussion because of difficulty in hearing one another; on a more symbolic level, they may infer from the seating arrangement that the teacher does not really value class participation and that they are not meant to interact to any great extent.

The environment's role as a source of symbolic messages has received little research attention. Campbell (1968) examined the influence of physical design dimensions of university faculty offices on students' feelings of ease and their perceptions of the professor. Groups of students viewed and rated 16 slides depicting a faculty office which varied in terms of four dimensions: (a) presence or absence of plants and fish; (b) presence or absence of art objects; (c) degree of neatness; and (d) furniture arrangement (the desk between the professor's and visitor's

chairs or against a side wall). The results supported the hypothesis that living things, aesthetic items, and neatness produce positive reactions. The presence of each of these resulted in students' responding that they would feel more welcome and comfortable if seated in the office and that the professor would be friendly, similar in interests, and unhurried. Neatness had the greatest impact of the four environmental dimensions, with clutter producing strong negative ratings; desk arrangement had relatively little effect.

In addition to this empirical data, a number of educators and psychologists have written persuasively about the ability of the physical setting to communicate. Sommer (1977), for instance, contends that a teacher's educational philosophy is reflected in the way he or she arranges classroom space. Furthermore, Sommer writes, "one can learn to 'read' the physical arrangement of chairs and desks, the use of decorations and real and symbolic barriers to gauge the present and desired levels of interaction" (p. 174).

In just this way, Anderson (1971) has "read" America's school buildings and has drawn the following conclusions about our educational system: (a) teachers distrust pupils' ability to be self-disciplined and to become voluntarily involved in learning; (b) conformity is more valued than individual differences; and (c) sedentary verbal learning is the most accepted classroom procedure. Anderson's indictment is echoed by Haney and Zimbardo (1975) who argue that there is a remarkable and distressing similarity between our high schools and our prisons—and that the physical environments of both communicate the same messages:

> The drab and depressing interiors clearly show that they have been designed for efficiency,

> security and surveillance...The dulling uniformity of identical classrooms and endless hallways emphasize the anonymity and insensitivity of the place, and the regimentation it imposes on its inhabitants...To the extent that a message can be translated from the high school's architectural medium, the language is clear: This place values regularity, order and control over creativity, spontaneity and freedom. (p. 29)

To these and other critics of the hard, "tight spaces" (Sommer, 1974) characteristic of our schools, the advent of the "open education" classroom (Walberg & Thomas, 1975) must have been a cause for celebration. Open education refers to a set of teaching practices that reflect the belief that children learn best when they are given the responsibility to make meaningful choices about what is to be learned, and when they are able to interact informally with their teachers and with one another. In order to achieve these conditions, the traditional rows of desks are replaced by a number of interest areas where children can work alone or with groups. Typically, there are areas for reading and writing, mathematics, science, and crafts; each area is supplied with materials and equipment displayed on open, accessible shelves.

It is likely that visitors to open classrooms and traditional classrooms draw substantially different inferences about the teachers' personalities and teaching styles. Campbell's investigation (1978) of the impact of office design also provides evidence that degree of neatness is a powerful environmental dimension, with messiness leading to negative impressions about the occupant of the room. Thus, the research described in this paper sought to determine the effect of furniture arrangement (open vs. traditional) and tidiness (messy vs. neat) on observers' expectations about a teacher. The basic plan of the study

was to show subjects color slides of vacant elementary classrooms and to have them rate their impressions of the teachers and the pupils who used the rooms.

Method

Subjects

Subjects were 43 college students (24 males, 19 females) enrolled in an Environmental Psychology course at Cook College, Rutgers University. Since the course was an elective, students represented a wide variety of disciplines: agriculture, biology, business, economics, education, English, environmental health, environmental planning and design, geography, human ecology, landscape architecture, natural resources management, and psychology.

Materials

Slides. Twelve sets of four slides each were created to depict elementary classrooms exemplifying both open and traditional arrangements (type) and varying in level of neatness and organization (condition). Three rooms represented each combination of Type X Condition (open-neat, open-messy, traditional-neat, traditional-messy). The slides were evaluated by 21 independent judges who rated each set of four slides along seven-point scales labeled open/traditional and messy/neat. A repeated measures analysis of variance conducted on these ratings demonstrated that the three rooms in each category were equivalent in terms of these two dimensions and that they differed significantly from the other categories ($p < .0001$).

Teacher Impression Questionnaire. Subjects' impressions of the teacher were assessed by condensing Ryans' Classroom Observation Record

(1970) used in a pilot study conducted during the summer of 1978. The revised questionnaire consisted of 12 five-point bipolar scales on which subjects indicated their impressions of the pupils and the teacher who used the room. The items were selected so that the four factors of the COR were maintained: general pupil behavior, teacher kindliness, teacher inventiveness, and teacher organization.

Procedure

Subjects were informed by one of the experimenters that they would be viewing and rating slides of 12 elementary classrooms. They were asked to imagine that they were visitors on a tour of a school who had the chance to look around various classrooms while the teachers and pupils were not there. The instructions suggested that they would probably get some ideas of what the teachers and pupils were like from the way the rooms looked and that they were to convey these ideas by completing the rating sheet for each room.

In order to simulate as closely as possible the experience of entering a classroom, the four slides of each room were projected simultaneously on four screens positioned side by side. Students first viewed all the slides quickly in order to create a frame of reference within which to subsequently complete the ratings. The slides were then shown again in a different order. To allow order effects to be detected, the 12 rooms were shown in three blocks, each of which contained slides representing the four Type X Condition categories in random order. Each room was projected for approximately one minute while subjects filled out the questionnaire for that room.

Results

An analysis was performed to determine if there was any effect due to the order in which the slides were presented. Since the results indicated that the variability due to order was of the same magnitude as that due to inherent class to class variability, the data from all three blocks were combined, and the variability of the three classes within each Type X Condition category was used as the error term in subsequent analyses.

A multi-factor repeated measures analysis of variance was conducted on the data from the condensed COR scale, with type (open vs. traditional), condition (messy vs. neat), and classroom within Type X Condition as within subject variables. Table 1 lists the mean ratings for each COR factor by type and condition. For all factors of the questionnaire (general pupil behavior, teacher kindliness, teacher inventiveness, and teacher organization), a highly significant main effect was found for condition. Pupils in neat classrooms were characterized as spending more time on task and as being happier, more responsible, and more controlled than pupils in neat rooms. Similarly, teachers in neat rooms were rated as more responsive, more student-centered, more stimulating, more alert, more confident, and more systematic than teachers in messy rooms. With respect to type of room, a significant main effect was found for Factors 2 and 3 only; teachers in open classrooms were rated significantly higher in terms of kindliness and inventiveness. There were no significant Type X Condition interactions.

Further analysis revealed a significant Condition X Sex interaction across all four factors. While both females and males responded favorably

to neat classrooms, females were more influenced by the neatness, giving relatively higher ratings for pupil behavior ($p < .02$), teacher kindliness ($p < .01$), teacher inventiveness ($p < .01$), and teacher organization ($p < .07$). A main effect for sex of subject was also found on Factor 2, kindliness ($p < .05$). Females rated the teacher as more responsive and more student-centered regardless of type or condition of room.

Discussion

The results of this study indicate that observers form strong impressions about a teacher's behavior and personality based on the neatness of the classroom, a finding that supports Campbell's work (1978) on university faculty offices. In addition, furniture arrangement had a significant impact, with open classrooms leading to more positive impressions of a teacher's responsiveness and creativity. Interestingly, these data are entirely consistent with those collected in a preliminary study conducted with teacher education students. Based on the pilot data, the investigators had anticipated the positive response to neatness found in the present study; however, we were uncertain whether the same effects of room arrangement would be demonstrated, since it was possible that the earlier results were due to subjects' familiarity with the philosophy of open education. This is apparently not so. Open classrooms seem to communicate messages of teacher responsiveness and inventiveness even to the "uninitiated."

One limitation of the present study is that subjects were explicitly directed to draw inferences about the teacher from the environment of the room. Although this seemed like a logical starting point, the experimental situation was clearly artificial. In the "real world," individuals are not

directed to scrutinize the environment in this way. Subsequent investigations are needed to demonstrate that even in the absence of explicit directions, the physical setting of a classroom is an important influence on judgments of the teacher.

Despite this limitation, the findings of the study have relevance for both researchers and practitioners. Certainly, it is crucial for teachers to be sensitive to the symbolic impact of the environments they create. By ensuring that the messages conveyed by the setting are congruent with their verbally communicated statements, teachers will be better able to avoid the misunderstandings and mistaken impressions that hinder teacher-student-parent communication. From a research perspective, the study represents one of the beginning steps in our attempt to understand just how individuals are affected by their physical surroundings.

Table 1

Effect of Room Type and Room Condition on

Mean CDR Scale Ratings

Environmental Dimension	CDR Factor 1 Pupil Behavior	2 Teacher Kindliness	3 Teacher Inventiveness	4 Teacher Organization
Type				
Open	19.05	15.55 *	10.41 *	14.35
Traditional	17.70	12.66	7.73	13.52
Condition				
Messy	14.51 **	12.49 *	7.83 *	10.17 **
Neat	22.25	15.72	10.31	17.69

*$p < .001$ for the difference in mean ratings

**$p < .0001$ for the difference in mean ratings

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